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THE MEDICAL ASPECTS OF ALCOHOLISM*

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WHAT are the "medical aspects" of an illness? Are they the criteria that justify the term "disease?"[1] Do they consist of the interface between the clinical physician and the illness? Perhaps they represent its relationship to the use of acute and chronic care medical facilities? Its impact upon morbidity and mortality rates? Or, in the case of an illness associated with the repetitive ingestion of a toxic substance, should we discuss the pathophysiology resulting from the chemical, its pharmacology or toxicology?[2] More likely than not, physicians would expect such a title to direct attention to the metabolic and anatomic derangements resulting from excess ethanol ingestion, the complications of alcoholism rather than the disease itself.[3,4,5] For completeness, let us examine each of these.

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Alcoholism may be defined as a disease[6] characterized by the repetitive ingestion of any sedative drug, ethanol representing but one of these, in such a way as to interfere with one or more aspects of the patient's life: interpersonal relationships, career, physical health. This definition is broad enough to encompass most of the euphemisms currently applied to patients suffering from it. Obviously, such a definition permits variability in the presentation of this illness. But what illness does not have variability? Can typhoid fever or tuberculosis not present in one person with barely detectable stigmata and in another with overwhelming and perhaps fatal consequences? Might one patient respond to therapy and another not? Might one patient acquire complications of an illness and another not? Might the disease not vary in its presentation and course with age, race, or the presence of other adverse medical conditions? For many years attempts were made to subdivide alcoholism into words or phrases designed to project an aura of moral turpitude or denial of the illness by society: "alcohol abuse," "misuse," or "problem." The term "misuse" implies that healthier individuals use ethanol "properly," and "abuse" makes the pejorative implication even clearer. Although the message of self abuse is clear (because abuse of the inanimate object alcohol is obviously ridiculous), some scientists have attempted to legitimatize this term by a pseudoscientific definition: the ethanol abuser using the drug without the production of physical dependency.[7] This becomes a cute trick because evidence of physical dependency and a subtle withdrawal manifestation can be demonstrated when a single dose of ethanol is administered to any mammal.[8]

More recently, the terms "primary" (arising *de novo*) and "secondary" (representing a complication of a separate and distinct illness) have been applied to alcoholism. This arbitrary terminology overlooks the fact that alcoholism has been observed both with and without any and all psychological patterns and that the latter occur with and without alcoholism.[9] The concept is more specious because it is based upon the temporal sequence of appearance of the illnesses rather than upon any demonstrated relationship. The rare disclaimer clarifying the anomalous and unusual manner in which the terminology is used is then rapidly lost in the literature.[10]

One even hears of definitions of alcoholism that incorporate the term "progressive." There is little doubt but that this illness, like many other chronic ones, is frequently progressive; nonetheless, a medical definition must not include such a term. If we were to use it to define neuroblastoma, an illness with substantial tendency to be progressive, would we not

be bound to reclassify that occasional instance wherein spontaneous regression occurred? When such a term is shifted from the description of a disease to its definition, it becomes self-fulfilling and arbitrary, restricting our understanding of the illness rather than broadening it.

Obviously, medical science has had little influence over the nomenclature of this illness. Rather, social values, morality, personal bias, and fear seem to dictate our terminology. Unfortunately, the resultant confusion tends to mislead our highest court,[11] our legislative bodies, and eventually ourselves. We lose the very purpose of medical nosology: scientific communication.

Although often attacked from both within and outside the medical profession,[1,12,13] the disease concept of alcoholism persists. Why? If we examine the derivation of the term disease, "lack of ease" (old French), there is little doubt that our patients suffering from alcoholism possess it. Our real problem turns about our assumption of self induction.

We seem to have less difficulty with overweight diabetic or hypertensive subjects. Their diseases, resulting in gangrene or myocardial infarction, might have diminished or disappeared without self induction. Although we have less difficulty applying the term "disease" to these conditions, there is still a detectable level of disapproval regarding circumstances commonly viewed as resulting from lack of control. Such a view suffers from total absence of scientific substantiation and failure to achieve clinical corroboration. In clinical practice one rarely observes a subject whose entire life is weighted down with greater efforts at control than that of the alcoholic. To be honest, the rest of us do not control our alcohol intake; we don't have to. In fact, the need to exercise such control is pathognomonic of the illness alcoholism.

Rather than failure to control oneself, let us turn to the reverse side of this coin: level of need for relief (i.e., appetite). It is unbelievable that this biological mechanism, upon which our very survival as a species rests, would replicate without variation. Indeed, patients with alcoholism commonly claim, "When I had my first drink, I finally discovered what it was like to feel normal like everyone else." Such a concept was substantiated by the observation that alcoholism is associated with stimulus augmentation and that this circumstance could be relieved by alcohol.[14] Of potentially greater significance is Hennecke's recent finding that children of subjects with alcoholism have not only an increased likelihood of developing this illness but are more apt to reveal stimulus augmentation than children of normal parents.[15] This is believed to be the first premorbid (prior to

drinking) finding associated with this disease. Along with a failure to identify with the parent of the same sex and a culture in which exposure to alcohol is common, it represents one of a triad of etiologic circumstances which has been referred to as the mosaic theory of the etiology of alcoholism.[16]

Let us put aside the very questionable issue of self induction (lack of control) and examine the applicability of the term "disease" in its more sophisticated or modern definition: a dysfunctional state with characteristic form. Ultimately, the fulfillment of this definition separates symptom from disease. Does alcoholism possess a recognizable pattern when examined from such aspects as etiology, history, physical findings, complications, course, prognosis, and therapy? If one has experience with the variation of expression common to all illnesses and the problems inherent in classifying all disease for which a known, singular, and specific etiology is lacking, the answer of clinicians who have labored in this field is a clear yes. One need go no further than the local Alcoholics Anonymous meeting to hear the recurrent and common histories. The physical findings are frequent enough to permit their expression in cartoon form. What medical student cannot recite readily the list of complications of this illness? Its untreated course and prognosis are so well known as to influence some physicians to avoid involvement with these patients. Effective treatment techniques, on the surface so dissimilar, all share the singular element of a caring person (or better yet, group) with whom the patient can establish a successful interpersonal relationship. It matters little whether one electrocutes, Rolfes, or hugs one's patients, as long as one cares, shares with and supports them in their abstemious life style.[6,17]

Is the pattern not as clear as it is for most diseases? Certainly we cannot persist in the belief that only gross anatomic derangements and infections are entitled to the label disease. If a biochemical disorder of the liver or pancreas can represent a disease, why not one involving the brain? If we must separate psyche from soma, how do we deal with the intellectual impairment associated with the biochemical disorder of brain metabolism, phenylpyruvicoligophrenia? A disease?

Let us turn to the more pragmatic issue: medicine has an interface with alcoholism because, like it or not, the patient eventually feels sick, isolated, and confused. He rarely seeks initially the advice of the teacher, social worker, alcoholism counselor, or cleric; rather, he sees his doctor.

Alcoholic patients do this with such frequency that they account for a disproportionate share of the nation's health expenditures.[18] Although

physicians are often the earliest resource to whom an alcoholic turns for help, we fail to identify the nature of the problem, and often diagnose only its complications. And why not? We spend hundreds of hours teaching medical students how to recognize the complications of alcoholism but rarely spend more than two or three hours during a four-year curriculum on the subject of recognition of alcoholism itself. The patients may present with vague complaints reflecting in a general way their dysfunctional state, or their troubles may be more somatic, including headache, pyrosis, flatulence, asthenia, palpitations, or abdominal pain. From an objective standpoint, one may observe labile hypertension, tremulousness, diaphoresis, tachyarrhythmias, or recurrent tracheobronchial infections. Repeated injuries, often complicated by fractures or pulmonary infections, are common. One may see evidence of poor compliance with therapeutic suggestions for other illness—hypertension, peptic disease, tuberculosis, and radiculopathies proving especially nettlesome. The patient may note symptoms of depression, especially insomnia, or more simply lament the fact that he is cursed with family members or career associates who are impossible to satisfy. More often than not, modest problems are perceived by patients as overwhelming and unresolvable.

Not only does the generalist see the stigmata of alcoholism in the family (that autocracy governed by its sickest member), the work place, and the community, but every medical specialist is in contact with some aspect of alcoholism as well. The obstetrician delivers the child suffering from an alcohol-related birth defect or worse, the fetal alcohol syndrome. The pediatrician treats not only this group with the most common of all preventable birth defects, but abused children growing up with alcoholic parents or surrogates. A surgeon or orthopedist treats the injuries resulting from an auto accident or fire until delirium tremens demands the assistance of a psychiatrist or internist. The otorhinolaryngologist attempts to resect the laryngeal or pharyngeal carcinomas that are relatively uncommon except in heavy drinkers. The subspecialists have their own contacts with these patients, whether through primary myocardial disease, cirrhosis, myopathies, gout, or pancreatitis. One may wonder which patients would require our efforts should alcoholics no longer need them.

But it is not only our offices that patients with alcoholism fill, but our hospitals as well. On many occasions it has been apparent that some 30% of the service medical beds in my own institution are filled with patients whose illnesses or admissions are in some way related to alcoholism.

This, despite the fact that admissions to this unit for alcoholism, detoxification, or withdrawal syndrome are extremely uncommon. More formal studies of other institutions yield similar results: 30 to 50% of medical beds are occupied for alcoholism or some illness related to or resulting from it.[19]

This interface between medicine and alcoholism is perhaps one of our sorriest. Rarely does the diagnosis of alcoholism appear on the charts of these patients and even more rarely are they referred for appropriate care of their alcoholism.[20] Resident physicians, who would never confess to ignorance about a liver function test, express readily their lack of information concerning local Alcoholics Anonymous meetings, their whereabouts, or techniques of referral. Is it not an anachronism that Alcoholics Anonymous meetings fill more church basements than hospitals? It is extremely rare to find a house staff or attending physician who knows whether his own institution houses such meetings or, if so, when and where. This despite the fact that each physician is in some manner treating alcoholics. Most hospitalized alcoholics are discharged eventually without inpatient or outpatient treatment for their primary illness.

Another interface between medicine and alcoholism relates to the mortality resulting from this disease. When asked to examine my unsuccessful efforts a few decades ago, I was shocked to learn that many such patients had died suddenly and violently. Certainly this observation should have evoked no surprise since 50% of all vehicular deaths are somehow associated with ethanol use and in like manner the figures for drownings and fires are 60% and 75% respectively. Sudden unexplained deaths (dysrhythmias?), the mixing of solid and liquid sedatives, occasional intentional suicides, and falls within the home resulting in head trauma completed the list. One need not even add the 85% of the more than 11,000 deaths from liver disease yearly ascribed to alcohol to realize that alcoholism is related to more deaths between 15 and 45 years of age than any other single factor.

Alcoholism is our biggest killer of young adults, yet it is largely unlabeled. We hardly needed the text by Haberman and Baden[21] to remind us of the frequency with which alcoholism is omitted from the death certificates that we fill out. When the son of a reputable townsperson suffers a fatal vehicular injury while his blood alcohol content is 0.3%, is alcohol entered on his death certificate? If this represented his 3rd such accident and not the first related injury, is alcoholism entered? Not likely.

Perhaps the medical aspects of this disease should encompass the

pharmacology of ethanol, the withdrawal syndrome, tolerance, and the nature of the addictive physical dependency state.[22] One can lecture for many hours about this unique sedative, its absorption, the caloric and metabolic load it presents to the body, and its enormous toxicity for the gastrointestinal tract, liver, pancreas, heart, skeletal muscles, neurons central and peripheral, bone marrow, and endocrine organs. Its ability to disorder the metabolism of neurohumoral transmitters, alter fat and carbohydrate metabolism, and modify the redox of nicotinamide adenine dinucleotide can only intrigue the toxicologist. The treatment of the disordered bodily metabolism resulting from alcohol ingestion, especially the abnormal central nervous system function requiring detoxification, may result in yet another interface between alcoholism and medicine.

Maybe the genetic studies, by supporting the biologic nature of the transmission of this illness, represents the interface which should really concern us?

No, in the final analysis most planning committees would agree that the medical aspects of alcoholism are simply the complications of alcoholism. Many of us in medicine continue to doubt the medical aspect of addiction itself, and perceive it as a social, moral, or political problem. Our prestigious acute care facilities reflect our attitudes, few possessing even rudimentary detox units. And when it comes to long-term rehabilitation units, we have largely quit the field. Classically, these entities have had minimal input from the medical sciences and schools.

It would seem that we are long overdue in changing our perceptions as to what the medical aspects of alcoholism might be. Today we will not err again in mistaking the complications for the disease. But will we persist in the maladaptation of medicine to this illness? There is an ancient Talmudic quip that says "For the man who does not know where he is going, any road will take him there." Let us choose our road more carefully than those who embraced the illusion of "controlled drinking" therapy for the alcoholic just a few years ago.[23] In the final analysis, the patient has chosen the physician to meet the onslaught of alcoholism. Our path and our aim with this disease, as with any other, should meet that need.

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